

WHAT IS CLAIMED IS:

1. A press molding die, comprising:
 - a punch which presses a workpiece;
 - a molding die having a molding surface on which the workpiece is placed and a concave portion which is formed on the molding surface and which has a shape corresponding to the punch;
 - a pad which presses a portion that is a part of the workpiece placed on the molding surface and that is on a periphery of the concave portion; and
 - a micro-rough layer which is formed by performing a particulate coating process on at least one of a portion of the pad, for pressing the workpiece, and a portion of the molding surface, corresponding to the portion of the pad.
2. The press molding die according to claim 1, wherein an average height of roughness of the micro-rough layer is 0.01 to 0.06 mm.
3. The press molding die according to claim 1, wherein the particulate coating process is performed using a silicofluoric chrome plating solution.
4. The press molding die according to claim 3, wherein the silicofluoric chrome plating solution contains 200 to 300 g of chromic anhydride, 1 to 8 g of sodium silicofluoride, and 0.5 to 1.5 g of sulfuric acid per liter, and the particulate coating process is performed in a condition in which a temperature of the plating solution is 40 to 50 °C, a current density is 100 to 150 A/dm², and a plating time is 3 to 10 minutes.
5. The press molding die according to claim 1, wherein a plurality of grooves which are parallel to each other, and another plurality of grooves which are parallel to each other are formed on the molding surface such that the plurality of grooves and the other plurality of grooves extend in different directions.
6. A manufacturing method of a press molding die, comprising the steps of:
 - forming a punch which presses a workpiece;
 - forming a molding die having a molding surface on which the workpiece is placed

and a concave portion which is formed on the molding surface and which has a shape corresponding to the punch;

forming a pad which presses a portion that is a part of the workpiece placed on the molding surface and that is on a periphery of the concave portion; and

forming a micro-rough layer by performing a particulate coating process on at least one of a portion of the pad, for pressing the workpiece, and a portion of the molding surface, corresponding to the portion of the pad.

7. The manufacturing method of a press molding die according to claim 6, wherein an average height of roughness of the micro-rough layer is 0.01 to 0.06 mm.
8. The manufacturing method of a press molding die according to claim 6, wherein the particulate coating process is performed using a silicofluoric chrome plating solution.
9. The manufacturing method of a press molding die according to claim 8, wherein the silicofluoric chrome plating solution contains 200 to 300 g of chromic anhydride, 1 to 8 g of sodium silicofluoride, and 0.5 to 1.5 g of sulfuric acid per liter, and the particulate coating process is performed in a condition in which a temperature of the plating solution is 40 to 50 °C, a current density is 100 to 150 A/dm², and a plating time is 3 to 10 minutes.
10. The manufacturing method of a press molding die according to claim 6, wherein a plurality of grooves which are parallel to each other, and another plurality of grooves which are parallel to each other are formed on the molding surface such that the plurality of grooves and the other plurality of grooves extend in different directions.